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ZBORNIK RADOVA
Proceedings

17. međunarodni simpozij o kvaliteti

**KVALITETA
ČINI RAZLIKU**

17th International Symposium on Quality

**QUALITY
MAKES A DIFFERENCE**

16. – 18. ožujka 2016.
March 16th – 18th, 2016
Zadar, Hrvatska/Croatia

HRVATSKO DRUŠTVO MENADŽERA KVALITETE
CROATIAN QUALITY MANAGERS SOCIETY

17. međunarodni simpozij o kvaliteti
17th International Symposium on Quality

KVALITETA ČINI RAZLIKU
QUALITY MAKES A DIFFERENCE

ZBORNİK RADOVA
PROCEEDINGS

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Zadar, Hrvatska/Croatia
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PREDGOVOR

Poštovane kolegice i kolege članovi HDMK, znanstvenici i stručnjaci u području sustava upravljanja, dobro došli na 17. međunarodni simpozij o kvaliteti, koji se održava na 20. obljetnicu postojanja i rada HDMK, pod radnim nazivom *KVALITETA ČINI RAZLIKU*.

Pripreme za simpozij započele su u vrijeme izlaska iz recesije koja je u Hrvatskoj trajala više godina. Sve sastavnice BDP-a bilježe rast (industrijska proizvodnja, izvoz, potrošnja građana, investicije). Smanjuje se i stopa nezaposlenosti. Turizam u 2015. godini bilježi najbolje rezultate od samostalnosti Hrvatske.

Zemlje članice EU također bilježe rast BDP-a. Cijena nafte na svjetskom tržištu opada. Međutim, EU kao i neke europske zemlje koje još nisu formalne članice EU, susreću se s valom migranata iz zemalja sjeverne Afrike i Bliskog Istoka, ali i zemalja srednje Afrike i Dalekog Istoka. EU, ali i svijet, nisu bili u potpunosti spremni na veliki val migranata. Ovaj migrantski val utjecao je negativno i na međusobne odnose nekih europskih zemalja.

Na globalnom planu prisutan je pokušaj stvaranja nove geopolitičke podjele svijeta. Jačanje terorizma u nekim dijelovima svijeta predstavlja prijetnju globalnoj sigurnosti i ekonomiji. Težnja pojedinih regija za samostalnošću i nezavisnošću ozbiljno prijeti prekrajanju karte Europe. Jedan od pozitivnih događaja na globalnoj razini povijesni je dogovor između SAD i Kine o klimi. Drugi, susret poglavara Katoličke i Ruske pravoslavne crkve.

Na području normizacije dogodile su se značajne promjene. Dana 15.9.2015. godine ISO organizacija objavila je normu ISO 14001:2015, a 23.9.2015. godine normu ISO 9001:2015. Norma ISO 14001:2015 kao ključna poboljšanja obuhvaća: 1) povećanu ulogu uprave, 2) usklađivanje sa strategijom, 3) povećanu zaštitu životne sredine s fokusom na proaktivno djelovanje, 4) efikasniju komunikaciju i 5) sagledavanje problema zaštite okoliša kroz životni ciklus proizvoda ili usluge. Neke od promjena u normi ISO 9001:2015 terminološkog su karaktera, ali ima i suštinskih: 1) promjene u strukturi uvažavajući SL aneks, 2) razumijevanje organizacije i njenog konteksta, 3) potpuna procesna orijentacija i 4) uvođenje zahtjeva za upravljanja rizicima. Obje revidirane norme, organizacije mogu iskoristiti kao prednost u odnosu na konkurenciju. Iz toga proizlazi i radni naziv ovog simpozija: *KVALITETA ČINI RAZLIKU*.

Kvaliteta, shvaćena u najširem smislu ima zadatak i mogućnost umanjiti utjecaj navedenih negativnih globalnih kretanja i doprinijeti blagodatima čovječanstva, ako bude materijalizirana kao kvaliteta proizvodnje i usluga,

obrazovanja, zdravstva, politike, medija, življenja, dakle, ukoliko obuhvati sve segmente djelovanja i života ljudi.

Za Republiku Hrvatsku osobito je važno sve raspoložive resurse staviti u funkciju provedbe započetih reformi i stvaranja pretpostavki održivog rasta i razvoja.

Mi u HDMK smatramo da je na ovom polazištu moguće razvijati konkurentnost gospodarstva, osigurati materijalno blagostanje građanima i razvijati demokraciju.

Organizacijom 17. međunarodnog simpozija o kvaliteti HDMK želi dati znanstveni i stručni doprinos provedbi društvenih reformi i kvaliteti upravljanja u Hrvatskoj i šire.

Ove godine simpozij i HDMK dobili su podršku Višegradskog fonda i partnera 15 institucija iz 8 zemalja: Češke, Mađarske, Indije, Poljske, Rumunjske, Srbije, Slovačke i Turske. Ova je podrška organizacijska, moralna i financijska.

Simpozij se održava u gradu Zadru, gradu pobjedniku u natjecanju za najbolju europsku destinaciju 2016. godine.

Dr. sc. Miroslav Drljača

INTRODUCTORY WORD

*Dear colleagues, members of the Croatian Quality Managers Society, scientists and professionals in the management systems field, welcome to the 17th International Symposium on Quality, which takes place on 20th anniversary of CQMS, under the working title **QUALITY MAKES A DIFFERENCE**.*

We started the preparations for the Symposium in the period of recovery from the recession that has lasted for years in Croatia. All GDP elements rise (industrial production, export, mass consumption, investments). Unemployment rate is decreasing. In 2015 tourism records the best results since the beginning of Croatian independence.

EU member states also record a GDP growth. Oil prices in world markets have been declining. EU, as well as some European countries, still not formal EU members, encounter a wave of migrants from North African and Middle East countries, but also from Central Africa and the Far East countries. The EU, but also the world, was not completely ready for the big migrant wave. This migrant wave has also negatively affected bilateral relations of some European countries.

Globally, there are attempts to create new geopolitical divisions of the world. Strengthening of terrorism in some parts of the world presents a serious threat to global security and economy. Aspirations of some regions for autonomy and independence seriously threaten to remap Europe. One of undoubtedly positive moments on the global level is a historic agreement of the USA and China on the climate. Second one is meeting between the Pope as a head of Catholic Church and the head of Russian Orthodox Church.

*Significant changes have also happened in the field of standardization. ISO 14001:2015 was published on September 15th, 2015 and ISO 9001:2015 on September 23rd. ISO 14001:2015 contains the following key improvements: 1) increased role of top management, 2) compatibility with strategic direction, 3) increased human environment protection focused at proactive action, 4) more efficient communication, and 5) contemplating environmental protection issues from the product or service life cycle perspective. Some of the changes in ISO 9001:2015 concern terminology but there are also some key updates, such as: 1) high level structure in line with the ISO Annex SL, 2) understanding the organization and its context, 3) full process approach and 4) introducing the requirement for risk management. Both revised standards can be used by organisations as a competitive advantage over their competitors. And this is where the title of this symposium comes from: **QUALITY MAKES A DIFFERENCE**.*

Quality, in the broadest sense of the word, has the task and the possibility to reduce impacts of the mentioned negative global movements and contribute to the welfare of mankind if it is materialized as quality of production and service provision, education, health care, politics, media, life, hence, if it encompasses all segments of human activities and life.

For the Republic of Croatia it is of utmost importance to put all available resources to the function of implementation of the initiated reforms and creation of prerequisites for sustainable growth and development.

We in the CQMS still think, based on this postulate it is possible to develop the competitiveness of the national economy, provide material prosperity to our citizens and develop democracy.

By organizing this 17th international symposium on quality the CQMS want to give its' scientific and professional contribution to the implementation of social reforms and to the quality of management in Croatia and beyond.

This year Symposium and the CQMS got Visegrad Fund support and support of 15 institutions from 8 countries: Czech Republic, Hungary, India, Poland, Romania, Serbia, Slovakia and Turkey. This support means organizational, moral and financial support.

The Symposium is held in city of Zadar, city winner of the competition titled European Best Destination 2016.

Miroslav Drljača, Ph.D.

OVERVIEW OF THE DEVELOPMENT OF REVISIONS OF THE STANDARD ISO 9004 AND ITS INFLUENCE ON THE REVISIONS OF ISO 9001 STANDARD

PREGLED RAZVOJA REVIZIJA NORME ISO 9004
I NJEN UTJECAJ NA RAZVOJ NORME ISO 9001

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ABSTRACT

Constant changes in the management and requirements for product quality have prompted the organization to introduce new methods to improve their skills necessary for the survival in the market. Increasingly, there is recognition of the need for applying effective and efficient system that will lead to continuous improvement of quality and continuous increase in customer satisfaction. One of the most applied norms of the business world is ISO 9001 according to which organizations or their quality management systems are certified. With the development of society, organizations and business concepts there is a constant need for the development of standards, not only for certification but also other standards of the same grade. On the development of the ISO 9001 standard affected the standard in the same class, ISO 9004. In the standard ISO 9004 are established the basic set of elements for the development and implementation of quality management systems. In 1987, ISO 9004 defines the

elements of quality management and quality system elements. Further development, ISO 9004 provided the instructions for organizations to improve the quality and instructions for improving the capabilities and operating instructions for the purpose of sustainable development organization.

Key words: ISO standards, revision of the standards, quality management systems, certification, quality management.

1. INTRODUCTION

In parallel with the technical and technological development have been developed specific standards that have become a means of communication in the process of work, which means that the development of standards related to quality and quality system did not start in 1987 but much earlier.

First standards were developed as a result of a need in the production of weapons and other military equipment. In the further development appeared standards that were not related to the production of military equipment and weaponry. In these standards was consolidated positive experience of building business systems in organizations based on the specifications of the general requirements for quality program and significantly contributed to the development of a series of standards ISO 9000 which determined the requirements for a quality system.

Due to the increasing number of products and services on the market, the expectations of customers in terms of quality become higher. In order to survive on the market and maintain strong economic performance, organizations should implement more efficient and effective systems that will lead to continuous improvement of quality and continuous increase in customer satisfaction.

As a response to market demand appeared standards that determined the requirements for the control of products and global expansion of the market has shown a need for international merger and integration of experiences and knowledge by creating an organization that would contribute to the coordination among the states.

2. OVERVIEW OF THE DEVELOPMENT OF REVISION OF THE STANDARD ISO 9004

In 1987 was published the ISO 9004 entitled *Elements of quality management and quality system elements* in which were identified basic sets of elements used for development and implementation of quality management

systems. The choice of elements that were mentioned in this standard, and the degree to which they should be accepted and implemented depended on many factors, such as types of products or services, production processes and customer needs. In order to increase interest in quality and customer satisfaction there was a need for improvement and quality assurance¹.

In 1991 was published the ISO 9004 entitled *Quality management and quality system elements*. This standard consisted of six parts that have defined the guidelines for quality management and quality system elements, guidelines for services, guidelines for processed materials, guidelines for improving quality management, guidelines for quality plans and guidelines for configuration management².

In 1993, was published a new supplemented edition of ISO 9004 entitled *Quality Management and quality system elements*. This standard consisted of seven parts of which six parts determined the same guidelines as in the previous edition and was added the seventh part in which were defined guidelines for quality assurance in project management³.

In 1994 published a new supplemented edition of ISO 9004 entitled *Quality management and quality system elements*. This standard consisted of eight parts of which seven parts determined the same guidelines as in the previous edition and was added the eighth part in which were determined the guidelines for quality principles and their application in the control work⁴.

The new edition of ISO 9004 standard was published in 2000. It was consisted of eight parts (ISO 9004-1 , ISO 9004-2 , ISO 9004-3 , ISO 9004-4 , ISO 9004-5 , ISO 9004-6 , ISO 9004-7 and ISO 9004-8) and has been replaced by ISO 9004 entitled *Quality management systems - Guidelines for quality* . In this revision ISO 9004 standard becomes a consistent pair with ISO 9001 and no longer sets the guidelines for quality management and quality system elements , but they are integrated in the quality management system. Also this edition of the standard are explained the eight basic principles that can be used to improve the performance capabilities of the organization. In addition to the basic principles, new to this edition of the standard is to encourage organizations to use a process approach to quality management⁵.

¹ ISO 9004:1987 Elements of quality management and quality system elements.

² ISO 9004-2:1991 Quality management and quality system elements-Part 2: Guidelines for services.

³ ISO 9004-4:1993 Quality management and quality system elements-Part 4: Guidelines for quality improvement.

⁴ ISO 9004-1:1994 Quality management and quality system elements-Part 1: Guidelines.

⁵ ISO 9004:2000 Quality management systems - Guidelines for quality.

In the next edition of ISO 9004 standard was in 2009. The standard was renamed from *Quality management systems - Access to improve the capabilities* to the *Management for the purpose of permanent organizational performance - Access to quality management*. This edition of the standard no longer provides instruction to improve skills but provides guidelines to maintain lasting success through access to quality management⁶.

In 1987 were published three international standards which were describing the meaning of quality assurance. Standard ISO 9001 *Quality systems. Model for quality assurance in design/development, production, installation and servicing*⁷, the standard ISO 9002 *Quality systems. Model for quality assurance in production and installation*⁸ and the standard ISO 9003 *Quality systems. Model for quality assurance in final inspection and test*⁹.

Each standard determined the specific requirements for ensuring the quality in the stages of the product life cycle. ISO 9001 determined the requirements for quality assurance in the stages of design /development, production, installation and servicing, ISO 9002 determined the requirements for quality assurance in production and installation stages and ISO 9003 determined the requirements for quality assurance in the stages of final inspection and testing.

Table 1. The revisions of ISO 9004 standard

YEAR	ISO STANDARD	NAME OF THE STANDARD	CONTENT OF THE STANDARD	REVISION CHANGES
1987.	ISO 9004	Elements of quality management and quality system elements	Established a set of basic elements with which to develop and implement quality management systems; Twenty points	The name of the standard was changed; Replaced by ISO 9004:1991; The change in the content of the norm from twenty points to six

⁶ ISO 9004:2009 Management for the purpose of permanent organizational performance - Access to quality management.

⁷ ISO 9001:1987 Quality systems. Model for quality assurance in design/development, production, installation and servicing.

⁸ ISO 9002:1987 Quality systems. Model for quality assurance in production and installation.

⁹ ISO 9003:1987 Quality systems. Model for quality assurance in final inspection and test.

1991.	ISO 9004	Quality management and quality system elements Part 1-Guidelines Part 2-Guidelines for services Part 3-Guidelines for processed materials Part 4-Guidelines for quality improvement Part 5-Guidelines for quality plan Part 6-Guidelis for configuration management	Quality assurance and corrective actions; Six points	Replaced by ISO 9004:1993; The change in the content, suffixed seventh point in which was defined quality assurance in project management
1993.	ISO 9004	Quality management and quality system elements Part 1-Guidelines Part 2-Guidelines for services Part 3-Guidelines for processed materials Part 4-Guidelines for quality improvement Part 5-Guidelines for quality plan Part 6-Guidelines for quality assurance in the project management Part 7- Guidelis for configuration management	Continuous quality improvement, corrective and preventive actions and processes; Seven points	Replaced by ISO 9004:1994; The change in the content, suffixed eight point where were defined guidelines for quality principles and their application in the management
1994.	ISO 9004	Quality management and quality system elements Part 1-Guidelines Part 2-Guidelines for services Part 3-Guidelines for processed materials Part 4-Guidelines for quality improvement Part 5-Guidelines for quality plan Part 6-Guidelines for quality assurance in the project management Part 7-Guidelines for configuration management Part 8-Guidelines for quality principles and their application in management	Process management and planning quality; Twenty points	Replaced by ISO 9004:2000; The name of the standard was changed; Consistent pair with ISO 9001; Guidelines for quality management and quality system elements come together in the quality management system ; The change in the content, form twenty points to eight points

2000.	ISO 9004	Quality management systems - Guidelines for quality	Harmonious pair with ISO 9001, the process approach and the fundamental principles of quality management; Eight points	Replaced by ISO 9004:2009; The name of the standard was changed; The change in the content , from eight to nine points; Provides guidelines for the maintenance of lasting success of organizations through access to quality management
2009.	ISO 9004	Management for the purpose of permanent organizational performance - Access to quality management	Sustainable success of the organization; Nine points	

Source: Made by the author.

In 1994, were published new, improved editions of standards. Those standards were determining the requirements for a quality system and were used for external quality assurance. ISO 9001 *Quality systems – Model for quality assurance in design/development, production, installation and servicing* replaced ISO 9001¹⁰, ISO 9002 *Quality systems – Model for quality assurance in production, installation and servicing*¹¹ replaced ISO 9002 and ISO 9003 *Quality systems . Model for quality assurance in final inspection and test*¹² replaced ISO 9003 from 1987. Changes in this revision are generally smaller and standards are upgraded.

3. OVERVIEW OF THE DEVELOPMENT OF REVISION OF THE STANDARD ISO 9001

In the next revision which took place in 2000 standards ISO 9002 i ISO 9003 are withdrawn and ISO 9001¹³ becomes a universal model entitled *Quality management systems – Requirements*. Title of the standard no longer includes quality assurance which reflects the fact that the requirements for the

¹⁰ ISO 9001:1994 Quality systems – Model for quality assurance in design/development, production, installation and servicing.

¹¹ ISO 9002:1994 Quality systems – Model for quality assurance in production, installation and servicing.

¹² ISO 9003:1994 Quality systems. Model for quality assurance in final inspection and test.

¹³ ISO 9001:2000 Quality management systems - Requirements

quality management system established in this edition of ISO 9001 in addition to quality assurance focused on increasing customer satisfaction. This edition of the standard refers to the orientation on quality management systems and encouraging the adoption of a process approach when developing, implementing and improving the effectiveness of the quality management system and increasing customer satisfaction by meeting their requirements. ISO 9001 is in this edition consistent with ISO 9004 which means that each point of the ISO 9001 corresponds to the point of ISO 9004 where they give instructions and guidance for the establishment of an universal model. The structure of the standard is changed. It consists of eight parts in which are specified requirements for a quality management system.

In 2008 was published the new edition of the standard ISO 9001¹⁴. A key feature of this release is in request for quality management system through a process approach. In the previous edition of ISO 9001 is still given rise to a process approach, while in this release states promoting the process approach. The advantage of this approach is in providing permanent surveillance of relationships between the individual processes within the process approach and their combination and interaction. This edition of the standard has not changed substantially compared to the previous edition. Still consists of eight points in which are specified requirements for a quality management system.

In the new edition of the standard ISO 9001:2015¹⁵ the content of the standard is changed. It no longer contain eight points, now it has ten points. Regarding the context of the organization, are superimposed two clauses: 4.1. Understanding the organization and its context and 4.2. Understanding the needs and expectations of stakeholders. Together these clauses require that organizations establish internal and external context that is relevant to its purpose and strategic direction as well as the needs and expectations of stakeholders.

Also, the requirement relating to the scope of application states that the organization needs to apply all the requirements specified in ISO 9001: 2015, if applicable, within assigned subjects and areas of application of its quality management system. The organization can claim compliance with the standard if it is found that the requirements that do not apply do not affect the ability or responsibility of the organization to ensure the conformity of products and services and to increase customer satisfaction. Requirements for processes in this edition of the standard are significantly increased. In total there are ten requirements: requirement for the inputs of the process; requirement for the expected outputs of the process; the requirement for the order and interac-

¹⁴ ISO 9001:2008 Quality management systems - Requirements

¹⁵ Draft ISO 9001:2015

tion processes; requirement for resources and opportunities; requirement for the criteria, methods and performance indicators; requirement for responsibility and authority for the process; requirement for risks and opportunities; request for evaluation of processes; requirement for any necessary changes; requirement for improving the process.

The key change in the new version of ISO 9001:2015 is the requirement that the organization deals with risks and opportunities in order to gain confidence in the management system and that it can achieve the anticipated results. In previous editions of ISO 9001 instruction were addressing to deal with risks through preventive measures, in this release are addressing that dealing with risks is a preventive activity. Regarding the request for environment of the organization for implementation processes, are added, accompanied by physical factors, social and psychological factors. With resource requirements for monitoring and measurement except for demand for measuring equipment in the standard are specified requirements and other resources used for the verification of conformity of products and services to the requirements (tests, questionnaires, test lists, telephone or internet research, etc.).¹⁶

Table 2. The revisions of ISO 9001 standard

YEAR	ISO STANDARD	NAME OF THE STANDARD	CONTENT OF THE STANDARD	REVISION CHANGES
1987	ISO 9001	Quality systems. Model for quality assurance in design/development, production, installation and servicing.	The requirements for the quality system ; The four points – fourth point contains twenty points	The name of the standard was changed
	ISO 9002	Quality systems. Model for quality assurance in production and installation.	The requirements for the quality system ; The four points – fourth point contains eighteen points	The name of the standard was changed; The requirements for the quality system ; The four points – fourth point contains twenty points
	ISO 9003	Quality systems. Model for quality assurance in final inspection and test.	The requirements for the quality system ; The four points – fourth point contains twelve points	The name of the standard was changed; The requirements for the quality system ; The four points – fourth point contains twenty points

¹⁶ Milovanov B., Stanić M.: How to audit quality management systems in accordance with ISO 9001:2015?; The quality system requirement for business success and competitiveness

1994	ISO 9001	Quality systems – Model for quality assurance in design/development, production, installation and servicing	Quality system - External quality assurance	The name of the standard was changed; The content of the standard was changed – form four points to eight points
	ISO 9002	Quality systems – Model for quality assurance in production, installation and servicing	Quality system - External quality assurance	Withdrawn in year 2000
	ISO 9003	Quality systems . Model for quality assurance in final inspection and test	Quality system - External quality assurance	Withdrawn in year 2000
2000	ISO 9001	Quality management systems - Requirements	Quality management system	The eight fundamental principles of quality management; Encouraging the process approach
2008	ISO 9001	Quality management systems - Requirements	Quality management system	The eight fundamental principles of quality management; Promoting the process approach
2015	ISO 9001	Quality management systems - Requirements	Quality management system	The content of the standard was changed – form eight points to ten points; Seven fundamental principles

Source: Made by the author.

The fundamental principles are changed. Of the eight fundamental principles, in this edition of the standard are mentioned only seven, namely:

- Focus on the customer;
- Leadership;
- Inclusion of people;
- Process approach;
- Improvement;
- Making decisions based on facts;
- Relationship management.

4. ANALYSIS OF THE DEVELOPMENT OF THE STANDARD ISO 9004 AND ITS INFLUENCE ON THE DEVELOPMENT OF ISO 9001 STANDARD

First developed standard MIL - Q - 9858 (1959) and MIL - I- 45208 (1961) are the result of a need in the production of weapons and other military equipment. In the further development of standards appeared norms that are not related to the production of military equipment and weaponry as standard ASQC / C specification for general quality requirements¹⁷.

In 1987 were published the series of standards ISO 9000. The series consisted of ISO 9000, ISO 9001, ISO 9002, ISO 9003 and ISO 9004. The standard ISO 9000 provided guidelines for selection and use of ISO 9001, ISO 9002 and ISO 9003. The standard ISO 9004 determined the elements of quality management and elements of quality systems. By increasing interest in quality and customer satisfaction there was a need for improvement and quality assurance. To enable the organizations to meet the evolving needs of the market in 1991 was published a series of ISO 9004. These series consisted of six parts that were related to the guidelines, the guidelines for the services, the guidelines for processed materials, guidelines for improving quality management, guidelines for the quality plan and guidelines for configuration management. Of this series of ISO 9004 was analyzed ISO 9004-2 which referred to the change from quality control to quality assurance and the corrective actions in order to increase customer satisfaction.

In ISO 9004-4 from 1993 is directed to the continuous improvement and preventive and corrective action, and its influence is visible in the editions of ISO 9001, ISO 9002 and ISO 9003 in 1994.

In 1994 were published supplemented ISO 9001, ISO 9002 and ISO 9003 that determined the requirements for quality assurance within the product life cycle.

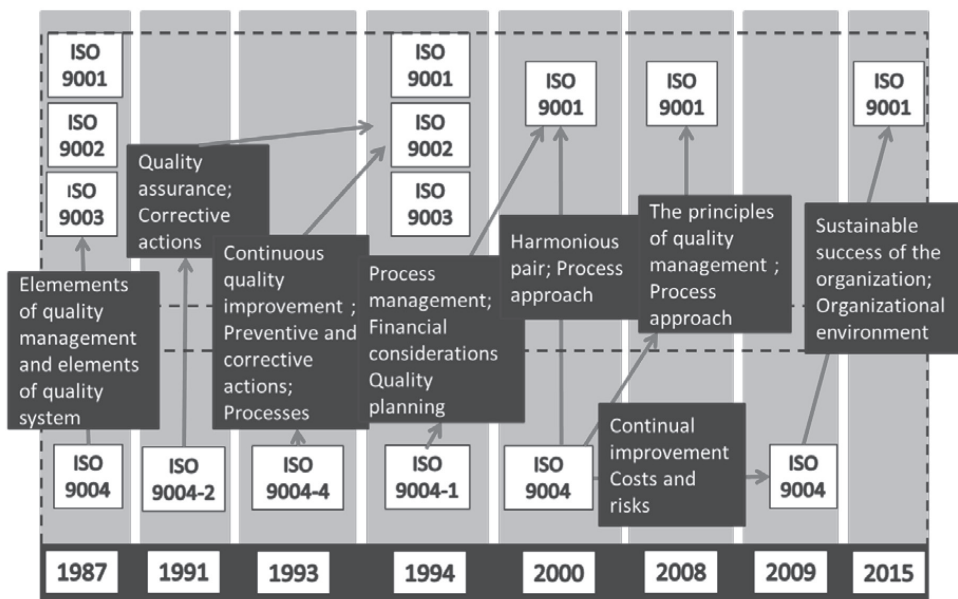
In addition to these standards, the same year was published a new edition of ISO 9004. In ISO 9004-1 from the same year appear terms for quality management and process management. This edition of the standard has influenced the development of ISO 9001 from 2000.

In 2000, ISO 9001, ISO 9002 and ISO 9003 have been replaced by ISO 9001, which become a harmonious pair with ISO 9004. The application of the process approach, the application of the eight fundamental principles of quality management, continuous improvement and meeting the needs and expectations of customers and other stakeholders is the key influence of ISO 9004 on ISO 9001. In ISO 9004 are listed the changes that will influence the further

¹⁷ Živko Kondić, Quality and ISO 9000 – Use, TIVA, Varaždin, 2002.

development of the ISO 9001 and that is the process approach, based on eight fundamental principles, which should be introduced as a requirement for organizations that want to improve the management system quality.

Image 1. Influence of the development of ISO 9004 on the development of ISO 9001



Source: Made by the author.

In 2008 was published a new edition of ISO 9001, which showed the influence of ISO 9004 on ISO 9001. In ISO 9001 as a request states the process approach to quality management which was so far only indicated. The advantage of this approach is to ensure permanent surveillance of relationships between the individual processes within the process approach and their combination and interaction.

The ISO 9004 from 2009, which describes the approach to the sustainable success of the organization, focusing on internal and external users, the importance of the organizational environment, and not just the work environment and the importance of financial resources suggest changes that will affect the next revision of the ISO 9001 standard.

In the new edition of ISO 9001 from 2015, one can notice the influence of ISO 9004 in 2009. In addition to the change of content, there are clauses

that indicate an understanding of the organization and its context and understanding the needs and expectations of stakeholders. These clauses require organizations to identify issues and requirements that may affect the planning of the quality management system. The two most important changes aim of ISO 9001 are the simplification of standards that will be equally applicable to micro, small, medium and large organizations, as well as greater flexibility in defining the plans set by the organization itself. Also in the standard is defined the obligation for the involvement of all managers and employees. It is given the importance of employee training seminars so that employees would be motivated to meet the goals of the organization¹⁸.

In this edition of ISO 9001 greatest importance is given to the top management, and refers to a significant shift in the leadership of the TQM concept and the concept of leadership¹⁹.

The basic principles are changed. Of the eight fundamental principles, in this edition standard refers to them only seven, namely: focus on the customer; leadership; involvement of people; process approach; improvement; decision-making based on facts; relationship management. Changes that are in ISO 9001: 2015 point to a uniform terminology and enable easier integration of different systems.

5. CONCLUSION

ISO 9004 originally determined basic set of elements for the development and implementation of quality management systems, through a series of revisions is formed in a standard that determines the guidelines for achieving sustainable success of the organization. Through the revisions, this standard has changed its content and guidelines, from the determination of elements in the system of quality guidelines to improving the ability to access quality management in order to lasting success of the organization. This standard affected the development of ISO 9001 by providing a broader view of quality of the suggested ways to improve and continuously improve the system of organizations in order to achieve maximum benefit for the organization and interested parties. ISO 9001 was determined by the first requirements for quality assurance, auditing standards requirements for the quality system and re-auditing

¹⁸ Zoran Punoševac, Ana Jelenković i Miloš Punoševac, „New version of ISO 9001:2015 – Is it passed time of documentation and has come time of situation“, The quality system requirement for business success and competitiveness.

¹⁹ Slavko Arsovski, „Leadership quality: The requirement for an effective QMS in terms of rapid change“, The quality system requirement for business success and competitiveness.

standard requirements for quality management system. ISO 9001:1994, ISO 9002:1994 and ISO 9003:1994 that determined the requirements for quality assurance in the conception, development, production, installation and servicing, the requirements for quality assurance in production, installation and maintenance as well as the requirements for quality assurance in final examination in 2000 were withdrawn. The same year was published the ISO 9001, which became a universal model and a harmonious pair with ISO 9004.

It was published new edition of ISO 9001, which in itself sums up part of the changes referred to in the latest edition of ISO 9004. The changes relate to the content, the understanding of the organization and its context and to understand the needs and expectations of stakeholders. All changes made in ISO 9001 among others were created to help organizations and their quality management systems to integrate with other management systems. Such integration allows organizations to control and oversight of all internal and external processes that affect the level of competitiveness and sustainable success organization.

Sažetak:

PREGLED RAZVOJA REVIZIJA NORME ISO 9004 I NJEN UTJECAJ NA RAZVOJ NORME ISO 9001

Stalne promjene u poslovanju, te zahtjevi za konkurentnijim i kvalitetnijim proizvodom potaknuli su organizacije na uvođenje novih modela upravljanja za poboljšanje svojih sposobnosti potrebnih za opstanak na tržištu. Sve više se dolazi do spoznaja o potrebi za primjenjivanjem djelotvornijih i učinkovitijih sustava koji će dovesti do stalnog poboljšavanja kvalitete i stalnog povećanja zadovoljstva kupaca, ali i svih ostalih zainteresiranih strana.. Jedna od najviše primjenjivanih normi u poslovnom svijetu je norma ISO 9001 prema kojoj se certificiraju organizacije, odnosno njihovi sustavi upravljanja kvalitetom. Razvojem društva i organizacija, te poslovnih koncepata stalna je potreba i za razvojem normi i to ne samo certifikacijskih već i ostalih normi istog razreda. Na razvoj norme ISO 9001 utjecala je norma iz istog razreda, tj. ISO 9004. Nastankom norme ISO 9004 utvrđen je osnovni skup elemenata pomoću kojih se razvijaju i provode sustavi upravljanja kvalitetom. Godine 1987. norma ISO 9004 definirala je elemente upravljanja kvalitetom i elemente sustava kvalitete. Daljnjim razvojem, norma ISO 9004 pružala je upute organizacijama za poboljšavanje kvalitete i upute za poboljšavanje sposobnosti, te upute za upravljanje u svrhu održivog razvoja organizacije.

Ključne reči: ISO norme, revizije normi, sustavi upravljanja kvalitetom, certificiranje, menadžment kvalitetom.

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je jer svaka promjena u organizaciji zahtijeva strogo profesionalnu i snažnu potporu. Na temelju iskustva konstatira se da je kombinacija profesionalne i snažne potpore i promocije projekta nužno potreban uvjet radi uspješnog uspostavljanja i održavanja inovativne organizacije. U ovom članku autori su fokusirani na teorijski i analitički pristup utvrđivanja djelovanja organizacija u Slovačkoj usmjerenih na obvezujuću ulogu menadžmenta u inovacijama.

Ključne riječi: inovacije, obvezujuća uloga menadžmenta, inovativna organizacija.

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